

CLAIMS

1. A conductive composition consisting essentially of (a) 50-95 wt % finely divided particles of an electrically-conductive material
5 dispersed in (b) a liquid vehicle, for use in the manufacture of an electrically-conductive pattern on a substrate for the use of reducing cross-sectional area and width while retaining conductivity and resistivity.

2. A conductive composition comprising: (a) finely divided
10 particles of an electrically-conductive material; (b) an inorganic binder selected from lead borates, lead silicates, lead borosilicates, cadmium borate, lead cadmium borosilicates, zinc borosilicates, sodium cadmium borosilicates, bismuth silicates, bismuth borosilicates, bismuth lead silicates, bismuth lead borosilicates, oxides or oxide precursors of metals,
15 and mixtures thereof; dispersed in (c) a liquid vehicle wherein the total composition contains 50-95 % by weight solids and wherein said inorganic binder is present at less than 1.0% of the total solids in the composition.

3. The composition of any one of Claims 1 or 2 wherein said
20 electrically-conductive material is selected from silver, gold, platinum, or palladium and mixtures thereof.

4. A process for the manufacture of an electrically-conductive pattern, said process comprising:
25 (i) providing a substrate;
(ii) providing on at least a part of said substrate a layer of enamel;
(iii) applying onto said enamel the conductive composition of any one of claims 1 to 3;
30 (iv) firing the coated substrate.

5. An article comprising a substrate having on at least a part thereof a layer of enamel, and on at least a part of said enamel an electrically-conductive pattern, said electrically-conductive pattern is

formed from a conductive composition comprising: (a) finely divided particles of an electrically-conductive material; (b) an inorganic binder selected from lead borates, lead silicates, lead borosilicates, cadmium borate, lead cadmium borosilicates, zinc borosilicates, sodium cadmium borosilicates, bismuth silicates, bismuth borosilicates, bismuth lead silicates, bismuth lead borosilicates, oxides or oxide precursors of metals, and mixtures thereof; dispersed in (c) a liquid vehicle.

wherein said inorganic binder is present from 0 to 1.0% of the total solids in the composition.

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